CLASSIFICATION CONFIDENTIAL ~~CONFIDENTIAL~~

50X1-HUM

CENTRAL INTELLIGENCE AGENCY
INFORMATION FROM
FOREIGN DOCUMENTS OR RADIO BROADCASTS

REPORT
CD NO.

COUNTRY	USSR
SUBJECT	Economic; Technological - Machine tools
HOW PUBLISHED	Monthly periodical
WHERE PUBLISHED	Moscow
DATE PUBLISHED	Nov 1949
LANGUAGE	Russian

DATE OF INFORMATION 1949

DATE DIST. 21 Jul 1950

NO. OF PAGES 2

SUPPLEMENT TO REPORT NO.

THIS IS UNEVALUATED INFORMATION

SOURCE Stanki i instrument, No 11, 1949.

SOVIET PROGRESS IN TOOL PRODUCTION DURING 1949

N. S. Degtyarenko

In 1949, there was a sharp increase in the output of products by the tool industry. Cutting and measuring tools and measuring instruments were improved, and the number of types was increased. The production of many types of standardized tools grew to such an extent that discontinuing their manufacture in tool shops of machine-building plants has been considered, since their nonspecialized production is so costly.

The success achieved was chiefly the result of introducing conveyer methods in the production of standardized tools in tool plants. During 1948 the conveyer method was employed only at the Frezer and Kalibr plants and was limited to the production of taps, slide gages and micrometers. In 1949, other products were manufactured by this method, and the conveyer production method was adopted by other enterprises.

At present, conveyer lines more than 2.6 kilometers long are in operation at tool plants of the Main Administration for Tool Production.

A conveyor with regulated rhythm, moving either continuously or intermittently, was found to be the most efficient. The conveyors are usually equipped with a parts hopper. The semifinished pieces are transferred from one operation to the next in fixed rhythm (1-5 minutes). The belt conveyor proved to be the most practical for straight-line movement and the chain conveyor for winding lines. Some plants use the overhead chain conveyor.

Two conveyors are usually used in the production of one-piece cutting tools such as taps and threading dies. All machining operations prior to heat treatment are performed on one conveyor, and all operations subsequent to heat treatment are performed on the other. At the Novosibirsk Tool Plant, all machining, heat treatment, and assembly operations, as well as other operations such as packing, are carried out by the conveyer method in the manufacture of adjustable wrenches.

CLASSIFICATION CONFIDENTIAL ~~CONFIDENTIAL~~

STATE	X	NAVY	X	NSRB		DISTRIBUTION									
ARMY	X	AIR	X	FBI											

In the production of measuring instruments such as slide gages, micrometers and indicators, conveyors are used for the most part only for assembly and finishing operations. At the Kalibr Plant, however, machining operations are also included in the manufacture of slide gages and micrometers. At present the billets for all 12 basic micrometer parts begin their journey on the conveyor in the material stockroom. The conveyor carries them through all stages of machining and assembling so that finished micrometers come off the conveyor one after another.

Great strides have also made been made in the extensive utilization of automatic lathes, both single-spindle and multispindle (four-eight spindles). At the Frezer Plant, the proportion of automatic operations in the production of taps before the war was 16 percent, and in the production of round threading dies, zero percent. The ratio now has grown to 48 and 31 percent, respectively.

In the conveyer production of round threading dies, special multispindle combination machine tools are being used more and more for drilling chip holes. The machine tools are being produced by the Kharkov Combination-Machine-Tool Plant. Their productivity is nearly twice that of drilling machines equipped with jigs. Drilling of side holes in round threading dies is at present being done on four-spindle special combination machine tools built by the Kharkov Plant.

Sizing of threads on round threading dies was successfully mechanized at the Frezer Plant. This is an operation which had been performed by hand for a long time.

Special hobs were used for machining teeth on milling cutters at the Minsk Tool Plant, with the result that productivity doubled and the geometry of the teeth was improved.

A great deal of attention is being given to the use of multiposition automatic attachments while organizing conveyer methods. An interesting attachment is in use at the Kalibr Plant in the production of slide gages and micrometers. Up to 20 parts are machined simultaneously in each attachment on a milling machine or grinder. Multiposition attachments are also widely used in the production of /cutter/ sections, mills, and fitting and assembly tools. At the Novosibirsk Tool Plant external broaching is being successfully carried on with the use of automatic clamping devices.

The Frezer Plant has started series production of sectional hobs with a module from 16 to 30 millimeters.

The Leningrad Tool Plant has tooled up for series production of external toothed gages, that is, indicators for checking the basic pitch of gears up to a module of 20 and tangential toothed gages for checking the same gears up to a module of 36. The Kalibr Plant has started to produce pneumatic precision instruments with graduations to 0.2 microns for measuring a 3-millitmeter diameter hole or larger, and for measuring the external diameter of rings, etc. Production of an interferometer, designed by Engineer I. T. Tverskiy, has also been started at this plant. The instrument has a variable scale with graduations from 0.2 to 0.03 microns.

- E N D -